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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,014	02/26/2004	Tomio Yaguchi	501.43527X00	6736

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EXAMINER
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KEANEY, ELIZABETH MARIE

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/786,014

Applicant(s)

YAGUCHI ET AL.

Examiner

Elizabeth Keaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/26/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "6" and "8" point to the same element in figure 20. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of "partition walls each having one end in contact with a second-panel-side surface of the

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control electrode" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Murata et al. (US Patent 4,769,575; hereinafter Murata).**

Murata discloses, in figures 2 and 3 and throughout the disclosure, a flat panel display device comprising:

- a first panel (11) having a plurality of electron beam sources which are arranged in a matrix array, the electron beam sources being constituted of cathodes (2) which emit electrons and control electrodes (5) which are electrically insulated from the cathodes and control the quantity of electrons emitted from the cathodes, and a plurality of cathode lines and a plurality of control electrode lines which, in a state in which the cathodes and the control electrodes which constitute respective electron beam sources are respectively separated into a plurality of sets,

electrically connect the cathodes and the control electrodes for the respective sets, the electron beam sources designated by respectively selecting some of the cathode lines and the control electrode lines serving to emit electrons (column 3, lines 59-64); and

- a second panel (10) having phosphors (column 3, line 68) which emit light when impinged upon by electrons emitted from the electron beam sources corresponding to the arrangement of the electron beam sources, wherein
  - the cathodes and the control electrodes are arranged on the first panel in a first flat cross-sectional plane which is parallel to the second panel, and further the control electrode lines are arranged in a second cross-sectional plane which differs from and is spaced from the first cross-sectional plane which is in contact with the cathodes and the control electrodes.

**Claims 1-3,6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamoto (US Patent Application Publication 2001/0025962).**

Re claim 1: Nakamoto discloses, in figure 7 and throughout the disclosure, a flat panel display device comprising:

- a first panel (51) having a plurality of electron beam sources which are arranged in a matrix array, the electron beam sources being constituted of cathodes (52) which emit electrons and control electrodes (54) which

- are electrically insulated from the cathodes and control the quantity of electrons emitted from the cathodes, and a plurality of cathode lines (paragraph 70, lines 1-5) and a plurality of control electrode lines (paragraph 91, lines 2-3) which, in a state in which the cathodes and the control electrodes which constitute respective electron beam sources are respectively separated into a plurality of sets, electrically connect the cathodes and the control electrodes for the respective sets, the electron beam sources designated by respectively selecting some of the cathode lines and the control electrode lines serving to emit electrons; and
- a second panel (61) having phosphors (65) which emit light when impinged upon by electrons emitted from the electron beam sources corresponding to the arrangement of the electron beam sources, wherein
    - the cathodes and the control electrodes are arranged on the first panel in a first flat cross-sectional plane which is parallel to the second panel, and further the control electrode lines are arranged in a second cross-sectional plane which differs from and is spaced from the first cross-sectional plane which is in contact with the cathodes and the control electrodes.

Re claim 2: Nakamoto discloses, in figure 7 and throughout the disclosure, wherein on a straight line which connects an arbitrary point on the cathode (52) and a

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point in a portion of the control electrode (54) closest to the point on the cathode, an insulation material (53) is present.

Re claim 3: Nakamoto discloses, in figure 7 and throughout the disclosure, the flat panel display device includes partition walls (63) each of which has one end thereof in contact with a second-panel-side surface of the control electrode and another end thereof extending in a direction toward the second panel (61).

Re claims 6 and 7: Nakamoto discloses, in figure 7 and throughout the disclosure, the cathodes including an electron emission material (57) which directly emits electrons in a vacuum and the electron emission material is selected from a group consisting of carbon nanotubes, micro carbon fibers, diamond, and diamond like carbon (paragraph 93, lines 1-2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamoto as applied to claims 1 and 3 above, and further in view of Murata.**

Nakamoto teaches all the limitations as found above.



However, Nakamoto fails to teach or fairly suggest a conductive film on the partition wall surfaces.

Murata discloses, in figure 3 and throughout the disclosure, insulative partition walls (13) including a conductive film (13a).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the conductive film taught by Murata within the device Nakamoto because it improves the conductivity between the electrodes thereby improving the efficiency of the device without increasing the power consumption (Murata; column 4, lines 45-46).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Keaney whose telephone number is (571)272-2489. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571)272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth Keane  
Examiner  
Art Unit 2882



**EDWARD J. GLICK**  
**SUPERVISORY PATENT EXAMINER**